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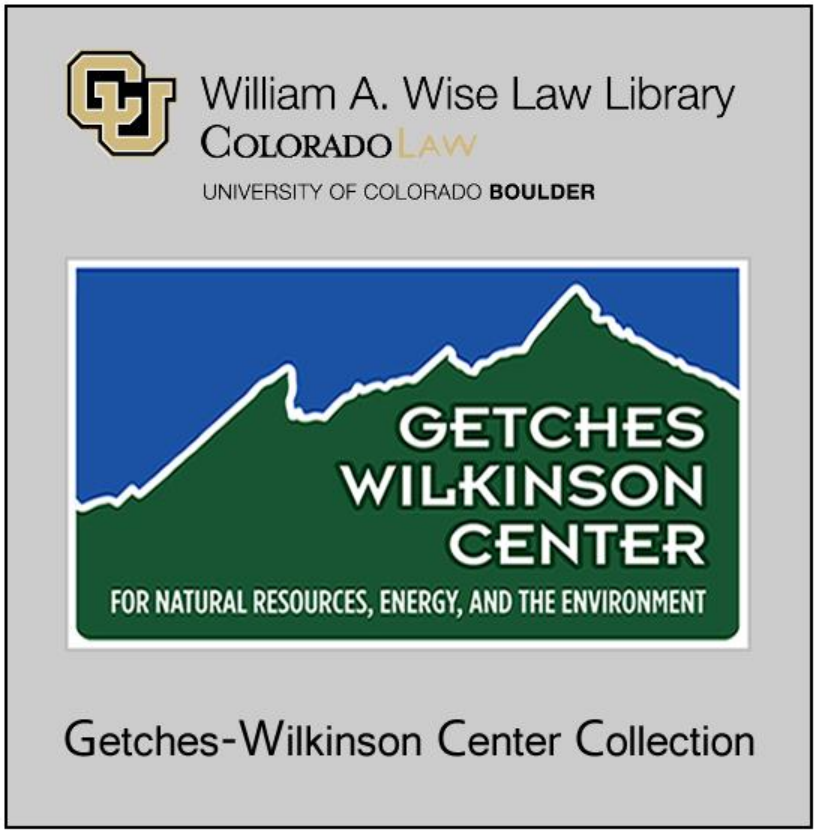

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The River Association Approach to
Privatization of Federal Hydro Projects

By Dr. Michael K. Block and
Congressman John Shadegg

Stakeholders other than power consumers - environmentalists, fishermen, sporting associations - were among the strongest opponents to PMA privatization proposals from the last Congress. They feared that private ownership of water resource facilities would not lead to a sufficient supply of "their" benefits (e.g. wildlife protection, fishing, water sports, flood control, etc.). Under the current state of affairs, these stakeholders either rely on the "reasonable" behavior of the public agency that operates the dam or try to assure provision of "their" benefits through political influence. Privatizing through a private/public partnership, in which the private owner owns only the power resources and the public agency controls the dam and the non-power water project activities, leaves these stakeholders in much the same situation as they are today.

Absent any compelling advantage resulting from a private/public partnership model, weaknesses of such an arrangement are the inefficiency of the government agency that provides the non-power benefits, the separation of costs and benefits of the non-power activities, and the fact that the benefits themselves are often not exactly what the non-power stakeholders actually would like.

One simple way to improve on the Holt/Bankhead privatization model is to directly involve the non-power stakeholders in the management of the dam. This can be done by transferring the dams to an association of stakeholders: farmers who need water to irrigate their fields, second homeowners who want the reservoir to provide the amenities they were seeking when they purchased their property, the power producer who needs the dam water to generate power, water consumers who want the dam to provide sufficient supply of water, resort owner along the beach who want the dam to be attractive for the general public, and perhaps some other stakeholders

whose "rights" to the dam are not tied to the land (environmentalists who want wildlife habitat preserved, fishing associations who want to have sufficient number of fish in the reservoir and down stream, barge companies that want to have the lock open any time they need it, rafting companies who want to have enough downstream water, surfers' associations who want to have enough upstream water). As explained in greater detail below, we believe one association should be formed for one river, and that that association should own all of the existing federal hydro non-power assets on that river (hence the name "river association"). The association would own everything that the federal government now owns (except the power resources) and would make decisions about, and bear responsibility for, dam maintenance and water management. In most cases this association would be composed of local stakeholders, so that local organizations are the ones deciding local, or at least regional, issues. Financing of dam maintenance and non-power activities would be provided by revenues from the power producer, like in the Holt/Bankhead type of arrangement (either by an annual fixed fee or, in the best case, by a flow charge), and other possible sources (e.g. water supply).

Incorporating the River Association

The general purpose of the association would be to provide the desired benefits to its members, thus it might seem appropriate that its structure be co-operative or non-profit. However, there are strong reasons to favor a more traditional corporate structure.

Establishment of River Corporations. For each river, on which the federal government owns and operates a SEPA, SWPA or WAPA hydro project, the federal government would establish a corporation (e.g. the Arkansas River Corporation). The federal government would transfer all its property in these hydro projects (except for the facilities directly used for generation and transmission of electricity) to these corporations. Contracts with current employees of the Corps of Engineers or Bureau of Reclamation (those who perform activities not associated with power production), liabilities and responsibility for managing the water flows would also be transferred to the corporations. The government would then issue shares of each corporation, the nominal

value of which would be equal to the accounting value of the property transferred to the river corporations.

Distribution of Shares. The following step has a number of parallels with our warrant proposal. *The federal government would distribute (without charge) the shares of the river corporations to the non-power stakeholders* according to a procedure defined in the statute. The current users of non-power activities would thus become owners of "their" dams, and would thus have direct control over the distribution of "their" benefits. Since the river corporation would have a guaranteed stream of revenue from the power producer (i.e., the privatized PMA), the non-power users would not only be given the responsibility for water resource, but also a potentially valuable asset.

Advantages of the Corporate River Association Approach

Cost Minimization. The river association would have an obvious incentive to minimize the costs of operating the dams and producing the non-power activities. Such an incentive would be present even if the association were a co-op or a non-profit, but the corporate structure makes this incentive much stronger because any cost savings can be distributed among shareholders (non-power users) as dividends.

How the fixed fees or flow charges are structured will have a powerful impact on incentives. If the fixed fee or flow charge is set to cover exactly the expected costs of dam operation, (i.e., some form of rate of return regulation as traditionally applied to electricity rates), the cost minimizing incentive for the river association would be much weaker. Thus we propose that the fee or charge originally should be set at the level of historical costs as incurred by the Corps or Bureau in the period just before transfer, and then indexed to the consumer price index or some other benchmark. Such an approach is not without problems, but its cost minimizing incentives and its predictability both to power producer and dam operator make it attractive.

Budget Impact. Although it seems that by giving away shares to the dam, the federal government receives no compensation, this is not the case. While the government would be relieved of some of its assets, this privatization structure will not have a negative impact on federal finances. Giving the dams and their obligations away will not reduce the proceeds from privatizing the PMA's. The price at which the PMA's are going to be sold to the warrant holders is fixed at the strike price, and the revenues that the government is going to generate by auctioning off the shares it obtains by federal warrant entitlements is determined by other factors, such as the level of the fixed fee or flow charge. It does not matter to investors whether these fees or charges are paid to the operating agency or a river association. What matters is the level of the fees and the likely performance of the dam operator. Because the fees or flow charges would be set at the same level regardless of whether the federal government or the river association owns the dam, and operating the dams is not intended to be a profitable activity, the federal budget will not suffer if a river association operates the dams. In fact, it might even get some revenue if this ownership pattern is likely to result in better run dams.

Reconnecting the Costs and Benefits. Under the river association plan, the non-power stakeholders will not be concerned about whether the new owners of the dam are hostile to their interests - for they will be the owners. They will determine how much of "their" benefits should actually be produced. No longer would bureaucrats living thousands of miles away decide how much of the non-power activities should be produced and how to resolve the disputes of competing demands on water resources, but the people who live near the dam and who actually use the dam and benefit from it will. The people who have competing interests in the dam would no longer lobby the government to promote their particular interest. Instead, they will simply sit together around a table and find a solution among themselves. There seems to be a political tendency to devolve many environmental regulations from the centralized government to the level at which environmental problems are best solved - at the local and regional level; the river association concept is a good example of applying this tendency to a specific issue. The river association concept also presents the type of local self-government that has historically characterized American democracy.

From an economic perspective, the corporate river association approach may eventually lead to a more efficient allocation of resources. The non-power users who now become hydro project owners will have reason to think about how much the benefits they are enjoying are really worth. If they decide to cut expenses on a particular activity, they can take the savings in higher dividends. It is possible that in some cases people will prefer cash to non-power benefits. On the other hand, if dam management decides to spend more on a particular activity, their dividends will be lower; and it is possible that in some situations people will prefer less cash in exchange for more non-power benefits.

For example, the river association members may decide to build a fish ladder in order to protect fish. However, such an environmental benefit is not free, and the river association members will bear the costs in terms of lower, perhaps zero, dividends. The point is that before they were given control of the dam operations, they had no title to dividends and less fish. Building a fish ladder makes the association members better off, and they decided to do so with full realization of costs of their activity, materialized in lower dividends.

This is exactly what we mean by reconnecting the costs and benefits. Having dividends from dam operations depend on the level of non-power production builds-in a feedback between the costs (in terms of opportunity costs) and benefits, without making any of the non-power stakeholders worse off - no stakeholders will have to pay any out-of-pocket costs in order to keep their initial level of benefits, and the stakeholders may always have the option of keeping the status quo in terms of the level of non-power activities. While doing this would result in zero dividends, what is important is that stakeholders have the information about how much they are sacrificing by having their dividends unchanged.

Political Impact. We think that the river association approach might change the political dynamics of PMA privatization in a way similar to the impact of warrants. Instead of trying to persuade the non-power stakeholders that privatization is not harmful to their interests (which has not proven to be a very effective strategy), we propose to empower them to pursue those interests. We believe that for most non-power stakeholders the possibility of co-owning a dam

and deciding on its future is much more attractive than the current arrangement in which they need to rely on political influence and/or some sympathetic bureaucrat.

The river association plan goes farther than giving the people who use the dam a voice in its operations; it also gives them a monetary stake in its management. When the non-power users learn about the possibility of owning the dam, influencing its operations and benefiting from any improvements in its management, we believe they will see new advantages of privatization. We anticipate that the non-power stakeholders will refrain from opposing privatization efforts and instead many become its promoters.

Controversial Issues in the Corporate river Association Approach

There are a very large number of options for structuring the river association, each with a different efficiency as well as distributional implication. Several issues must be resolved before an association is formed, the property transferred to it, and shares distributed to the non-power stakeholders.

Size. It is possible to have a separate association for each reservoir, one association for all reservoirs on a single river or a river system, or at the extreme, one association that includes all federal hydro projects in a single PMA's marketing area.

For a number of reasons, the one river one association seems to be most desirable. While associations tied to a single reservoir would have the advantage of creating strong personal ties between the members and the association, in some cases they may be unstable because they would be too small. They may also be too small to internalize many of the effects of the project and potentially could, by seeking only their own interests, harm associations located downstream. As for "supersize" association comprising the entire PMA area, we have serious doubts that it would be able to operate effectively. The ownership of such an association would be very dispersed and as a consequence, individual stakeholders would not have strong enough incentives to participate actively in the management of the dam. A mega-association would also put together stakeholders

who actually have neither common interests nor common conflicts - stakeholders benefiting from, say, the Clair Engle Lake on the Trinity River in Northern California have little in common with the people benefiting from the Hoover Dam.

On the other hand, an association that contains all of the non-power resources along a single river has an inherently logical basis. This option puts together groups of people who share a common resource (one river) in which actions of one group of stakeholders may influence the well-being of other group stakeholders in the association. For example, by including as participants of a single association all farmers taking water for irrigation from various locations along a river, this structure would effectively prevent the upstream farmers from "exploiting" the downstream farmers by opportunistically over-consuming water.

Even though having one association for one river seems to be the most appropriate general approach, there may be specific dams, rivers and watersheds for which a different structure may be more suitable. It would not be reasonable to insist on a "one-size-fits-all" solution; instead, we encourage that the spread of river associations should realize the regional problems and interests.

Who should get the shares? This is obviously one of the most important and most controversial questions concerning the structure of a river association. Excluding some non-power users hurts these users in two ways: first, they are deprived of the chance of receiving dividends from the association and, second, they might lose some of the benefits they currently enjoy by not having a direct say in reservoir management. On the other hand, including too many users may lead to too widely dispersed ownership and risk that the stakeholders will not be interested in active participation because their individual influence would be too small. It might also lead to the inclusion of stakeholders with too limited an interest in the specific water resource. This is particularly the case of some environmental groups whose interests are not tied to land and resource ownership along the river and whose focus is national environmental policy.

A group whose "rights" to shares seem to be obvious are people whose interest in the dams is somehow tied to the ownership of the land or to the consumption of water. The link between the

dam and people's well-being is strongest in the case of farmers, who enjoy irrigation, and residents, who benefit from water supply and flood control. Any change in the water supply may have a dramatic impact on their incomes, well-being and/or safety. For other landowners, such as resort and vacation homeowners, worsening the recreational qualities of the reservoir may have an impact on their incomes and on the value of their real estate property. Tying the eligibility for shares to the land ownership has an advantage of providing a transparent rule for distribution of shares: In proportion to the land, with a possible ceiling that would protect smaller owners.

Although land ownership and water consumption may appear to be two different things, they should not be separated when talking about ownership of the river association. This is obvious in the West, where water distribution is very often determined by water rights, and the water rights are part of the title to the land, whereas farming or urban (it should be emphasized that privatization of the dams must leave the current water rights intact). Then the only difference between assigning shares in proportion to land holdings or water holdings is that using land as a determinant enables including those landowners who have a stake in the dam but do not hold water rights. This principle can also be used for areas where water rights are not established, simply looking at water consumption *as if* it was based on water rights. Urban water users probably require special treatment. It would not make much sense to disperse the ownership of the river association among thousands of urban households who own very small pieces of land relative to farmers. What would make more sense is to have the local municipal or investor-owned water company represent the interest of urban water users in the river association, using the area they supply as a measure of their stake, again with a possible ceiling to protect individual farmers or vacation homeowners.

There are other stakeholders whose incomes and well-being are directly tied to the water project, but are not related to land ownership. Incomes of barge companies depend on such factors as the amount of water in the river and the reservoir, as well as the operation of locks (opening frequency, tolls). But since those interests do not depend on land ownership, their stake is much harder to measure.

And the existence of more or less intrinsic benefits of hydro projects complicates this problem even further. Fishing or kayaking associations do have an interest in the dam, but it is an interest that is harder to define in terms of eligibility for shares and very difficult to measure in relation to the interests of land owners. However, excluding such associations may have negative environmental impacts; for example, fishing associations may play a very positive role in protecting fish and habitat. Finally, on top of this "subjective value pyramid" are the environmental organizations who do not derive any direct benefits at all but who want to preserve fauna and flora, and may even be willing to pay for it.

There are some solutions for allocating interest in the dam. For example, the government might assign the bulk of the shares (say 80 percent) to the power company, land owners and water users (distributed by size of holdings) and then undertake investigations on who would be assigned the remaining interest. The eligibility of these other claimants would need to be proven by, say, evidence that a particular barge company uses the river, that members of a particular fishing association actually fish in a given dam, or that a particular environmental organization did participate in licensing hearings or made a similar effort indicating their concern, in the past. While the final decision will to some extent be arbitrary, we think that it should be made by an administrative body on a case by case basis. Not only would attempts to solve this at a legislative level result in lengthy congressional hearings slowing down the formation of river associations (while administrative body may at the same time of investigating the eligibility for shares also work on other details) but they could also lead to a unified ownership structure for all projects, which would probably disregard fairly significant regional differences. The role of Congress in this issue should be limited to defining the procedure for assigning shares.

Another possibility might be to allocate some shares to the power company and then auction off the remaining shares. This would lead to a distribution of ownership that would reflect the real values attached to the dam by various parties. This system, however, eliminates the positive political impact of free shares and may even foster opposition from those who have interest but would not be entitled to free shares. Auctioning the shares, while theoretically appealing, is a political non-starter.

Participation of the Power Producer. There is little doubt that the power producer is the most important single stakeholder in decisions about the dam. It is probably the party with the most resources at stake. A reservoir that is safely and reliably managed is the key to the power producer's success at any hydroelectric project. The company that owns the power resources will not only want to influence decisions about dam operations and maintenance, but it is also willing to bear significant costs incurred in these operations. The importance of dam operations, as well as the willingness of firms to contribute to funding such operations, is best illustrated by those water projects that are purely private. In these cases, the power companies bear *all* costs and the projects are still profitable.

Excluding the power producer (i.e., the privatized PMA) from participation in river associations is possible but may not be the best solution. Including the power producer in the river association might make co-ordination of activities better and lead to greater operating efficiency. However, including the power producer in proportion to their stake might, under a simple majority rule, lead to the power producer always having a majority - which could in some cases harm non-power stakeholders. It is important to include the power producer in the association in a way that is beneficial both to the power producer and to non-power users.

Giving free shares in the dam to the power producer is something that might encounter fierce opposition. What instead might be acceptable to both parties is raising the capital for the association by selling preferred shares to the power producer. The amount of shares would not be too great, so as to protect the non-power users. The power producer would get more direct influence over key decision, and the association would get a start-up cash endowment, part of which might be used as a reserve fund. This cash, however, also may be used to provide the non-power users with some additional benefits. Whatever decision the shareholders choose, increasing the capital by the power producer increases the value of shares to the non-power stakeholders. Another advantage of raising the capital is that it makes the disputes over fixed fees or flow charges less sharp, since at least part of such a charge would accrue to the power producer - as a river association shareholder. Raising association's capital in such a way does

reduce the value of a PMA to the potential buyer because the cash endowed to the association is "dissolved" among other shareholders; on the other hand, this decrease in value is somewhat compensated by the benefits described in this paragraph that the power producer will also share with other association's shareholders.

The internal decision-making mechanism of the river association might be structured in a more subtle way than simple majority rule. The shares issued to the power company are preferred shares; they may carry a prior claim on dividends but they might also carry a non-preferential voting restriction. In this case the preferred stockholder might only be entitled to fractional voting rights. On the other hand, to guarantee that a majority of non-power users could not harm the power producer, an affirmative rule of the preferred stockholder might be required for some major decisions. This would give the power producer the ability to block some actions but not the power to undertake actions alone. This might be combined with some near unanimity rule to override a veto by the power producer. The number of options are numerous enough so that the role of the power company is soluble in a mutually acceptable way.

Transferability of Shares. Normally, shareholders in a corporation are free to transfer their shares at any time and under any conditions they want. However, there are some reasons why it may not be optimal to implement this principle in the case of corporate river associations. The purpose of the river association is to pool together the stakeholders to enable them to manage their common water resource. The corporate structure is intended to mobilize the interest of stakeholders by giving them valuable assets and focusing their attention on the opportunity costs of the non-power activities. However, completely free trade in the associations' shares may harm the first objective of keeping all stakeholders involved in the management of the dam. On the other hand, not enabling the non-power users to trade their shares dramatically reduces the value of these shares and hence weakens the incentive of non-power users to invest in long-run improvements in the dam. Such restrictions also reduce the ability of the association to solve intra-user conflicts.

One solution to the transferability problem might be to allow the trading of shares only among the non-power users. This would guarantee the balance between power and non-power interest and would potentially lead to a more appropriate distribution of shares among non-power users. The users who do not attach very high value to membership in the river association would sell their shares while those who place a high value on non-power activities, as well as the chance to actively manage the dam, would buy them. The drawback is that the potential scope (hence number) of buyers is quite limited, which has a negative impact on prices at which the shares could be sold.

An alternative to this type of limitation on sale might be to grant a right of first refusal to current users. This approach would (in the stock certificate) lift the limitation on the scope of buyers but protect the interests of current user. A user wishing to sell his shares would be required to give the right of first refusal to all of the current users at the outside offer. If not enough users wish to buy the shares in, say, a week, then he could sell the shares without restrictions to anyone at any price. Such a solution again assures that if some users do not want to keep their shares, the shares would remain in the hand of other users who attach sufficient value to them. A good general principle would be a requirement that if someone received shares due to ownership of land and later decided to sell their land, then the shares must be sold together with the land.

Privatization of Power Is the Priority

We have presented a variety of options for structuring the sale of the PMA's along with the advantages and disadvantages of each. We strongly prefer transferring the non-power facilities and activities of federal hydro projects to corporate associations of non-power stakeholders, because we believe that the association is the appropriate entity to operate dams and is the best institutional form in which to reach a reasonable compromise of competing demands for water resources. However, we realize that creating river associations could be a very complex and potentially time consuming process: a process which could substantially delay privatization of federal power.

It is our position, however, that the privatization of federal power activities should be given priority. That is why we conclude that sale of PMA's via warrants should be initiated as soon as possible, and a Holt/Bankhead type arrangement adopted as an interim measure with a promise that the river association is a target structure. The only thing that would need to be addressed at that point would be the future position of the privatized PMA's in river associations (e.g. percentage of shares, raising capital by issuing preferential shares) because these have an ultimate impact on the PMA market value. Immediately after the PMA's are privatized, the federal government should begin transferring ownership of the dams, using a river association approach.

The government must not slow down the privatization of the PMA's while figuring out who should get the shares in the river associations and how many. Removing the federal government from the electricity business is the all important objective, and it should not be delayed by arguments over the best way to deal with the disposal of the non-power assets of the various water projects. There will be time after we get the federal government out of the electricity business to get the ownership and structure of the dam operating agency correct.